# WYATT MOORE

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## ABOUT ME

Electrical engineer with 4+ years of experience in semiconductor device design and micro/nano fabrication technology. Processing knowledge covering various device topologies and materials (flexible organic/polymer, compound semiconductor). Passionate about semiconductor device design and process technology. Open to new industries and roles, where I can learn new skills and apply my existing ones to solve unique challenges. Additional experience and knowledge in power electronics circuit design (academic, and industry), and circuit card manufacturing and testing.

## EDUCATION

**The Ohio State University** Columbus, OH
M.S. in *Electrical and Computer Engineering* Expected July 2020
GPA 3.70/4.00
Thesis: High Field Engineering in $\beta$-$Ga_2O_3$ Vertical Power Diodes

**University of Washington Bothell** Bothell, WA
B.S. in *Electrical Engineering, Magna Cum Laude* June 2016
GPA 3.86/4.00

## SKILLS

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|---|---|
| Lab Enviroment: | Class 100 Cleanroom, Glove Box |
| Thin Film Deposition: | Sputter, Thermal Evaporator, E-beam Evaporator, PECVD, SCS PDS |
| Lithography: | Contact Aligner, Stepper, Spin Coater, HMDS Vapor Prime |
| Etching: | Wet Chemical Etch, ICP/RIE, Ashing |
| Metrology: | Profilometer, AFM, SEM, Ellipsometer, Optical Microscope, High Voltage Probe Station, Oscilloscope, Function Generator, DMM |
| Programming: | Java, MATLAB |
| Software: | Klayout, Silvaco TCAD (Atlas, Athena), Origin, AutoCAD, LTSpice, DipTrace, PADS Logic, Autodesk Fusion 360, Microsoft Office Suite |

## RESEARCH EXPERIENCE

**The Electron Device Lab** Columbus, OH
*Graduate Research Assistant* July 2018 - Present

- Designed and simulated wide bandgap devices using band engineering and Silvaco TCAD
- Fabricated devices in class 100 cleanroom using various fabrication technologies
- Well versed in many device topologies (MOSFET, MODFET, MESFET, Schottky Barrier Diode (SBD), JBS SBD, PIN Diode
- Characterized material electrical properties and surface morphology
- Performed DC and capacitive measurements following with analysis using device physics
- Further developed data analysis and insights to better understand device characteristics
- Achieved 1200V breakdown using novel field management techniques on a Schottky diode
- Co-inventor on US patent for novel field management technique to enhance breakdown in unipolar devices
- Prepared weekly presentations to communicate progress on research to advisor and group

**The HERO Lab** Bothell, WA
*Research Assistant* March 2017 - February 2018

- Patterned flexible substrates with contact lithography process
- Used CVD deposition and release techniques to create flexible substrates for devices

**Undergraduate Research In Organic Photovoltaics** Bothell, WA
*Undergraduate Researcher* March 2015 - June 2016

- Fabricated solar cells with nearly all solution-based processes
- Investigated low-cost metallization techniques, gearing towards complete solution processed device
- Designed 3-D printed electrical testing apparatus for solar cells

## Industry Experience

**Crane Aerospace & Electronics** Lynnwood, WA
*Electrical Manufacturing Engineer* July 2016 - April 2018

- Trended failure data, identifying problem components using data analysis, improving yield and reducing failures
- Improved process flow on various manufacturing processes using Lean principles
- Investigated field, and manufacturing failures finding root cause and providing solutions
- Created and maintained work instructions to aid assemblers and technicians

**Crane Aerospace & Electronics** Lynnwood, WA
*Electrical Engineer Intern in Custom Power Electronics* June 2015 - July 2016

- Performed stress analysis on key components, for multiple DC-DC converter topologies
- Performed worst-case analysis on various Op-Amp design topologies to ensure functionality
- Implemented design changes through schematic capture

## Publications

- P. Marsh, **W. Moore**, M. Clucas, L. Huynh, K. Kim, Soyeon Yi, J.-C. Chiao and Hung Cao, Characterization of Flexible pH micro-Sensors Based on Electrodeposited IrOx Thin Film, IEEE Sensors; Glasgow, Scotland, Oct 29 Nov 2, 2017.
- Z. Feng, A. Bhuiyan, Z. Xia, **W. Moore**, Z. Chen, J. Mcglone, D. Daughton, A. Aerhart, S. Ringel, S. Rajan, H. Zhao, "Probing charge transport and background doping in MOCVD grown (010) $\beta$-$Ga_2O_3$," arXiv preprint arXiv:2004.13089, April 27, 2020.
- Z. Xia, H. Chandrasekar, **W. Moore**, C. Wang, A. Lee, J. Mcglone, N. Kalarickal, A. Arehart, S. Ringel, F. Yang, S. Rajan, "Metal/$BaTiO_3$/$\beta$-$Ga_2O_3$ dielectric heterojunction diode with 5.7 MV/cm breakdown field," Applied Physics Letters; Dec 17, 2019.

## Affiliations and Awards

*Founder's Fellow Research Scholarship*, University of Washington Bothell, 2016
*Annual Dean's List*, University of Washington Bothell, 2012 - 2016